IN THE CLAIMS

Please cancel claims 1-14.

Please substitute new claims 15-22, as follows:

15. (new) A gravity flow sludge load-out system for controlling the flow rate at which sludge is out-loaded from hoppers and the rate at which the hoppers are refilled, said system comprising:

a plurality of hoppers, each having an outlet at its bottom and an inlet at its top, said hoppers for receiving, storing and delivering a volume of sludge load-out;

a sludge distribution container;

a powered slide gate interposed between each of said hopper inlets and said sludge distribution container, said powered slide gates having a fully opened and a fully closed position and infinite variable positions therebetween;

hopper refill control means for automatically controlling each of said slide gates and the order in which, and the rate at which, each hopper is refilled after out-loading;

a sludge metering gate located at the outlet of each of said bottom of said hoppers, said sludge metering gates having a fully opened and a fully closed position and infinite variable positions therebetween;

load-out flow control means for automatically adjusting the position of said sludge metering gates for controlling the flow of sludge load-out through said sludge gates; and

a support framework on which said hopper and said sludge gate are mounted.

16. (new) The gravity flow sludge load-out system of claim 15, wherein said hopper refill control means comprises:

a programmable logic controller (PLC) operatively connected to said slide gates, said PLC

including a program for tracking and controlling said hopper refilling.

17. (new) The gravity flow sludge load-out system of claim 16, wherein said PLC program
tracks and ~~control~~ controls hopper refilling by using hopper net weight status to modulate sludge loading
into said hoppers via said slide gates, and wherein said hoppers are filled to a predetermined
differential weight as compared to one another, said hopper with the lowest weight being refilled
first, and when said hopper's net sludge weight exceeds the predetermined differential weight, as
compared to the previous highest hopper weight, the filling sequence is redirected to the new
lowest weight hopper, and wherein the refilling cycle continues until all of said hoppers are filled.

18. (new) The gravity flow sludge load-out system of claim 15 wherein said load-out flow
control means comprises:

an actuator for mechanically moving said sludge gate to and from its variable positions;

an operator interface terminal (OIT) for user input and display of sludge load-out data,
wherein said sludge load-out data is selected from the group consisting of sludge batch weight,
height level of sludge in said hopper, sludge flow rate, and combinations thereof.

19. (new) The gravity flow sludge load-lout system of claim 18, wherein said load-out
flow control means further comprises a programmable logic controller (PLC) operatively
connected to said OIT and said actuator.

20. (new) The gravity flow sludge load-out system of claim 19, wherein said load-out
flow control means further includes a weigh system for measuring the load-out weight, said weigh
system comprising load cells mounted on said support framework below each of said hoppers and
electrically connected to said PLC to transmit signals to said PLC, and wherein said PLC

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continuously monitors the weight of load-out content in said hoppers, continually compares the load-out batch weight to the amount of sludge loaded out through said sludge gates, and selectively adjusts the position of said sludge gates to control the load-out flow rate, and wherein said PLC continuously monitors the sludge weight remaining in said hopper during a load-out operation and systematically decreases the sludge flow rate as the weight of sludge in said hopper approaches a preselected batch load out weight, and continuously calculates the loss in weight per unit time of sludge from said hopper and adjusts the position of said sludge gate to maintain a constant flow rate.

21. (new) The gravity flow sludge load-out system of claim 20 wherein said load-out flow control means further includes sludge height level sensors electrically connected to said PLC to transmit sludge level data to said PLC.

22. (new) The gravity flow sludge load-out system of claim 19 wherein said flow control means includes at least one position sensor located within each of said sludge gates, said position sensors electrically connected to said PLC to transmit signals to said PLC.